

# Colloid Thruster for Attitude Control Systems (ACS) and Tip-off Control Applications, Phase I

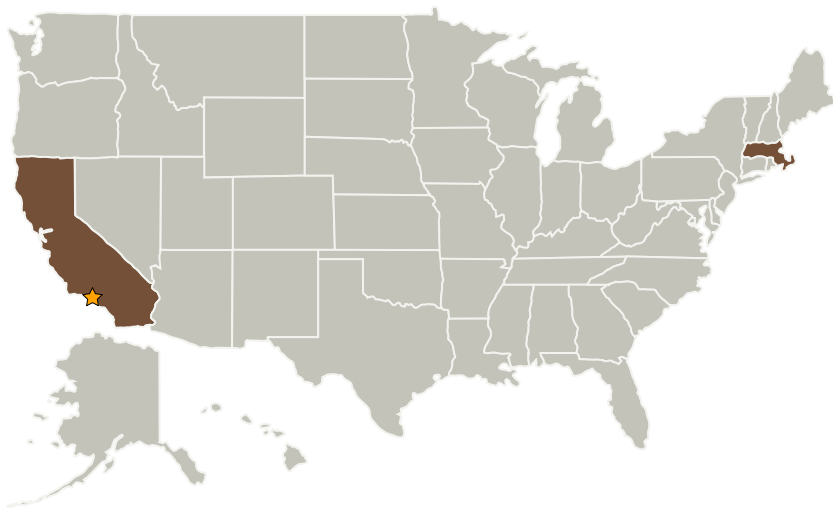
Completed Technology Project (2008 - 2008)



## Project Introduction

We propose to develop and test key technologies needed for an integrated, high thrust colloid thruster system with no moving parts, for spacecraft attitude control and tip-off rotation cancellation. Busek has already successfully demonstrated the use of porous substrates as planar emitters for colloid thrusters. In this proposal we will pursue enabling technologies for such a thruster, such as a passive feedsystem and an isolation membrane for separating the propellant in the reservoir from the thruster head prior to launch. Advancements to date suggest viable approaches for the development of a cost-effective, reliable, and flexible thruster configuration.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
Busek Company, Inc.	Supporting Organization	Industry Women-Owned Small Business (WOSB)	Natick, Massachusetts



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## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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## Primary U.S. Work Locations

California

Massachusetts

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

### Principal Investigator:

Nathaniel Demmons

## Technology Areas

### Primary:

- TX01 Propulsion Systems
  - └ TX01.1 Chemical Space Propulsion
    - └ TX01.1.1 Integrated Systems and Ancillary Technologies